

Claim Listing

1. (Previously presented) A method comprising:
receiving a keepalive message from a client station, and sending to the client station an acknowledgement of the received keepalive message;
determining a measure of network load;
based on the measure of network load, selecting a keepalive period;
reporting the selected keepalive period to the client station in the acknowledgement of the received keepalive message; and
the client station responsively sending a next keepalive message to a presence server at a time determined based on the selected keepalive period reported in the acknowledgement.
2. (Original) The method of claim 1, wherein the client station is a wireless mobile station.
3. (Previously presented) The method of claim 1, wherein the determining a measure of network load comprises:
the presence server querying a controller that has access to network load information.
4. (Previously presented) A presence server in a communication network, comprising:
a first module arranged to receive keepalive messages from at least one client station;

a second module arranged to select a keepalive period based on a measure of network load; and

a third module arranged to send acknowledgements of the received keepalive messages to the at least one client station, and to report the selected keepalive period to the at least one client station in the acknowledgements.

5. (Original) The presence server of claim 4, wherein the presence server at fixed time intervals polls a controller to obtain network load information.

6. (Original) The presence server of claim 4, wherein the communication network is a wireless communication network.

7. (Original) The presence server of claim 4, wherein the presence server is coupled to a controller, the controller keeping track of network load information.

8. (Original) The presence server of claim 4, wherein the presence server is embedded with a controller that keeps track of network load information.

9. (Previously presented) A system comprising:
at least one client station;
a presence server;
the presence server receiving a keepalive message from the at least one client station and sending to the at least one client station an acknowledgement of the received keepalive message;

the presence server determining a keepalive period based on network load and sending an indication of the determined keepalive period to the at least one client station in the acknowledgement; and

the at least one client station sending subsequent keepalive signals according to the keepalive period indicated in the response.

10. (Previously presented) The system of claim 9, further comprising a controller that has access to network load information.

11. (Original) The system of claim 10, wherein the controller periodically pushes network load information to the presence server.

12. (Previously presented) The system of claim 9, wherein the at least one client station and the presence server communicate via a wireless communication network.

13. (Previously presented) The system of claim 9, wherein the at least one client station and the presence server communicate via a packet-switched network.

14. (Previously presented) A method comprising:
sending a first keepalive message from a client station to a presence server, and sending from the presence server to the client station an acknowledgement of the first keepalive message;
selecting a keepalive period based on a measure of network load;

reporting the selected keepalive period to the client station in the acknowledgement of the first keepalive message;

using the selected keepalive period to determine when the client station should send a next keepalive message to the presence server; and

sending the next keepalive message from the client station to the presence server.

15. (Original) The method of claim 14, wherein selecting the keepalive period based on the measure of network load comprises:

the presence server selecting the keepalive period based on the measure of network load.

16. (Previously presented) The method of claim 14, wherein the first keepalive message comprises a Session Initial Protocol message.

17. (Original) The method of claim 14, wherein the method is used for dynamically determining keepalive periods in a wireless communication system, the wireless communication system serving one or more wireless mobile subscribers.

18. (Cancelled)

19. (Previously presented) A client station in a communication network, the client station comprising:

a receiver;

a transmitter;

a timer;

at least one processor;

data storage holding program instructions;

the program instructions being executable by the at least one processor to send a keepalive message through the transmitter, and to receive through the receiver an acknowledgement of the keepalive message, the acknowledgement containing information defining a keepalive period, the keepalive period being selected based on network load; and

the program instructions being further executable by the at least one processor, in response to receiving, in the acknowledgement, the information defining the keepalive period, to:

(i) set the timer according to the keepalive period, and

(ii) send a new keepalive message through the transmitter when the timer expires.

20. (Previously presented) A system for dynamically determining keepalive periods in a wireless communication network, comprising:

at least one base station;

a presence server;

a packet-switched network;

the presence server being capable of communicating with at least one mobile subscriber through the packet-switched network;

the presence server receiving a keepalive message from the at least one mobile subscriber through the packet-switched network and sending to the at least one client station an acknowledgement of the received keepalive message; and

the presence server selecting a keepalive period for the at least one mobile subscriber based on measures of network load, and the presence server reporting the selected keepalive period to the at least one mobile subscriber in the acknowledgement, through the packet-switched network.

21. (Previously presented) The system of claim 20, wherein the presence server at fixed time intervals polls a controller to obtain the measures of network load.

22. (Previously presented) The system of claim 20, wherein the presence server determines the measures of network load by querying a controller that has access to the measures of network load.

23. (Original) The system of claim 20, wherein the presence server keeps track of network bandwidth usage.

24. (Previously presented) The system of claim 20, wherein the at least one mobile subscriber, upon receiving the selected keepalive period, sends a keepalive message at a time determined by the selected keepalive period.

25. (Previously presented) A presence server in a communication network comprising:

a database, the database maintaining a list of client stations that are connected to the communication network; and

a timer;

wherein the presence server is programmed to:

receive keepalive messages from at least one client station and send to the at least one client station acknowledgements of the received keepalive messages,

select a keepalive period for the at least one client station based on a measure of network load,

report the selected keepalive period to the at least one client station in the acknowledgements, and

drop the at least one client station from the database if the presence server does not receive a new keepalive message within the selected keepalive period from the at least one client station.

26. (Previously presented) A method comprising:

sending a first keepalive message from a client station to a presence server, and sending from the presence server to the client station an acknowledgement of the first keepalive message;

selecting a keepalive period based on a measure of network load;

reporting the selected keepalive period to the client station in acknowledgement;

using the selected keepalive period to determine when the client station should send a next keepalive message to the presence server; and

updating a database of the presence server based on whether the client station has sent a next keepalive message to the presence server within the selected keepalive period.